



Form PTO-1449 Modified

List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)

U.S. Department of Commerce
Patent and Trademark Office

Docket No.
ISIS-4288

Serial No.
09/438,989

Applicant
Yogesh S. Sanghvi, et al.

Filing Date
November 12, 1999

Group
1623

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

AA	Albert, P.R. et al., "Antisense knockouts: molecular scalpels for the dissection of signal transduction", <i>Trends Pharmacol. Sci.</i> , 1994 , <i>15</i> , 250-254
AB	Berkow et al. (eds.), <i>The Merck Manual of Diagnosis and Therapy</i> , Rahway, N.J., 1987 , 15th Edition, 2263-2277, 2283-2292, 2301-2310
AC	Bernhard et al., "Direct Evidence Linking Expression of Matrix Metalloproteinase 9 (92-kDa gelatinase/collagenase) to the metastatic phenotype in transformed rat embryo cells," <i>Proc. Natl. Acad. Sci. USA</i> , 1994 , <i>91</i> , 4293-4297
AD	Birkedal-Hansen, "Proteolytic Remodeling of Extracellular Matrix," <i>Curr. Op. Cell Biol.</i> , 1995 , <i>7</i> , 728-735
AE	Boggemeyer et al., "Borrelia burgdorferi Upregulates the Adhesion Molecules E-selectin, P-selectin, ICAM-1 and VCAM-1 on Mouse Endothelioma Cells in vitro," <i>Cell Adhes. Commun.</i> , 1994 , <i>2</i> , 145-157
AF	Cook, P.D., "Medicinal chemistry of antisense oligonucleotides - future opportunities", <i>Anti-Cancer Drug Design</i> , 1991 , <i>6</i> , 585-607
AG	Crooke, S.T. et al., "Pharmacokinetic Properties of Several Novel Oligonucleotide Analogs in mice", <i>J. Pharmacol. Exp. Therapeutics</i> , 1996 , <i>277</i> , 923-937
AH	Crooke, S.T. et al., "Progress in Antisense Oligonucleotide Therapeutic", <i>Ann. Rev. Pharmacol. Toxicol.</i> , 1996 , <i>36</i> , 107-129
AI	Dean, N.M. et al., "Inhibition of protein kinase C- α expression in mice after systemic administration of phosphorothioate antisense oligodeoxynucleotides", <i>Proc. Natl. Acad. Sci.</i> , 1994 , <i>91</i> , 11762-11766
AJ	DeLisser et al., "Molecular and Functional Aspects of PECAM-1/CD31," <i>Immunol. Today</i> , 1994 , <i>15</i> (10), 490-494

EXAMINER

DATE CONSIDERED

8-18-04



Form PTO-1449 Modified		Docket No. ISIS-4288	Serial No. 09/438,989
List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office		Applicant Yogesh S. Sanghvi et al.	
		Filing Date November 12, 1999	Group 1623
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
	AK	Dimock et al., "An efficient multigram synthesis of monomers for the preparation of novel oligonucleotides containing isosteric non-phosphorous backbones", <i>Nucleosides & Nucleotides</i> , 1997 , 16(7-9), 1629-1632	
	AL	Downward, "The ras Superfamily of Small GTP-binding proteins," <i>TIBS</i> , 15 , 1990 , 469-472	
	AM	Englisch, U. et al., "Chemically Modified Oligonucleotides as Probes and Inhibitors", <i>Angew. Chem. Int. Ed. Eng.</i> , 1991 , 30, 613-629	
	AN	Griffiths, C.E.M. et al., "Keratinocyte Intercellular Adhesion Molecule-1 (ICAM-1) Expression Precedes Derman T Lymphocyte Infiltration in Allergic Contact Dermatitis (<i>Rhys dermatitis</i>)", <i>Am. J. Pathology.</i> , 1989 , 135, 1045-1053	
	AO	Gum et al., "Stimulation of 92-kDa Gelatinase B Promoter Activity by ras Is Mitogen-activated Protein Kinase Kinase 1-independent and Requires Multiple Transcription Factor Binding Sites Including Closely Spaced PEA3/ets and AP-1 Sequences," <i>J. Biol. Chem.</i> , 1996 , 271(18), 10672-10680	
	AP	Guzaev et al., "Synthesis of ¹⁴ C-Radiolabeled Oligonucleotides with a Novel Phosphoramidite Reagent", <i>Bioorg. Med. Chem. Lett.</i> , 1998 , 8, 1123-1126	
	AQ	Hakugawa et al., "The Inhibitory Effect of Anti-Adhesion Molecule Antibodies on Eosinophil Infiltration in Cutaneous Late Phase Response in Balb/c Mice Sensitized with Ovalbumin (OVA)," <i>J. Dermatol.</i> , 1997 , 24, 73-79	
	AR	Hegemann, L. et al., "Biochemical Pharmacology of Protein Kinase C and its Relevance for Dermatology", <i>Pharmacology of the Skin</i> , Mukhtar, H. (ed.), CRC Press, Boca Raton, 1992 , Ch.22, 357-268	
	AS	Himelstein et al., "Metalloproteinases in Tumor Progression: The Contribution of MMP-9," <i>Invasion & Metastasis</i> , 1994-95 , 14, 246-258	
	AT	Ho, V.C. et al., "Treatment of severe lichen planus with cyclosporine", <i>J. Am. Acad. Dermatol.</i> , 1990 , 22, 64-68	
EXAMINER <i>[Signature]</i>		DATE CONSIDERED <i>8-18-04</i>	

NOT AVAILABLE TO EXAMINER

**Form PTO-1449 Modified**Docket No.
ISIS-4288Serial No.
09/438,989List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)Applicant
Yogesh S. Sanghvi et al.U.S. Department of Commerce
Patent and Trademark OfficeFiling Date
**November 12,
1999**Group
1623**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)**

AU	Hoa et al., "Inhibition of Matrix Metalloproteinase 9 Expression by a Ribozyme Blocks Metastasis in a Rat Sarcoma Model System," <i>Cancer Res.</i> , 1996 , 56, 5279-5284
AV	Hurtenback et al., "Prednisolone Reduces Experimental Arthritis and Inflammatory Tissue Destruction in Scid Mice Infected with <i>Borrelia Burgdorferi</i> ," <i>Int. J. Immunopharmac</i> , 1996 , 18(5), 281-288
AW	Iyer, R.P. et al., "The Automated Synthesis of Sulfur-Containing Oligodeoxyribonucleotides Using 3H-1,2-Benzodithiol-3-one 1,1-Dioxide as a Sulfur-Transfer Reagent", <i>J. Org. Chem.</i> , 1990 , 55, 4693-4699
AX	Kabanov, A.V., "A new class of antivirals: antisense oligonucleotides combined with a hydrophobic substituent effectively inhibit influenza virus reproduction and synthesis of virus-specific proteins in MDCK cells", <i>FEBS Letts.</i> , 1990 , 259, 327-330
AY	Katocs, A.S. et al., "Biological Testing", <i>Remington's Pharmaceutical Sciences</i> , 18th Ed., Gennaro (ed.), Mack Publishing Co., Easton, PA, 1990 , Ch. 27, 484-494
AZ	Kerr et al., "Growth Factors Regulate Transin Gene Expression by c-fos-Dependent and c-fos-Independent Pathways," <i>Science</i> , 1988 , 242, 1424-1427
BA	Kerr et al., "TGF- β 1 Inhibition of Transin/Stromelysin Gene Expression Is Mediated Through a Fos Binding Sequence," <i>Cell</i> , 1990 , 61, 267-278
BB	Kroschwitz, J.I., "Polynucleotides", <i>Concise Encyclopedia of Polymer Science and Engineering</i> , 1990 , John Wiley & Sons, New York, 858-859
BC	Letsinger, R.L. et al., "Cholesteryl-conjugated oligonucleotides: Synthesis, properties and activity as inhibitors of replication of human immunodeficiency virus in cell culture", <i>Proc. Natl. Acad. Sci.</i> , 1989 , 86, 6553-6556
BD	Lisby, S. et al., "Intercellular adhesion molecule-1 (ICAM-1) expression correlated to inflammation", <i>Br. J. Dermatol.</i> , 1989 , 120, 479-484

EXAMINER

And Oines

DATE CONSIDERED

*8-18-04**NOT AVAILABLE TO EXAMINER*



Form PTO-1449 Modified

List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)

U.S. Department of Commerce
Patent and Trademark Office

Docket No.
ISIS-4288

Serial No.
09/438,989

Applicant
Yogesh S. Sanghvi et al.

Filing Date
November 12,
1999

Group
1623

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

BE	Fitwin et al., "Novel Cytokine-independent Induction of Endothelial Adhesion Molecules Regulated by Platelet Endothelial Cell Adhesion Molecule (CD31)," J. Cell Biol., 1997, 139(1), 219-228
BF	Manoharan, M. et al., "Lipidic Nucleic Acids", Tetrahedron Letts., 1995, 36, 3651-3654
BG	Manoharan M. et al., "Cholic Acid-Oligonucleotide Conjugates for Antisense Applications", Bioorganic Med. Chem. Letts., 1994, 4, 1053-1060
BH	Manoharan, M. et al., "Introduction of a Lipophilic Thioether Tether in the Minor Groove of Nucleic Acids for Antisense Applications", Bioorg. Med. Chem. Letts., 1993, 3, 2765-2770
BI	Manoharan, M. et al., "Chemical Modifications to Improve Uptake and Bioavailability of Antisense Oligonucleotides", Annals NY Acad. Sciences, 1992, 660, 306-309
BJ	Manoharan M. et al., "Oligonucleotide Conjugates: Alteration of the Pharmacokinetic Properties of Antisense Agents", Nucleosides and Nucleotides, 1995, 14, 969-973
BK	Martin, P., "Ein neuer Zugang zu 2'-O-Alkylribonucleosiden und Eigenschaften deren Oligonucleotide", Helvetica Chimica Acta, 1995, 78, 486-504
BL	Mishra, R.K. et al., "Improved leishmanicidal effect of phosphorothioate antisense oligonucleotides by LDL-mediated delivery", Biochim. Et Biophysica, 1995, 1264, 229-237
BM	Newman, "Perspective Series: Cell Adhesion in Vascular Biology," The Biology of PEGAM-1, J. Clin. Invest., 1997, 99(1), 3-7
BN	Nies, A.S. et al., "Principles of Therapeutics", Goodman & Gilman's The Pharmacological Basis of Therapeutics, 9th Ed., Hardman et al. (eds.), McGraw-Hill, New York, NY, 1996, Ch. 3, 43-62

EXAMINER

DATE CONSIDERED

8-18-04

NOT AVAILABLE TO EXAMINER

**Form PTO-1449 Modified**Docket No.
ISIS-4288Serial No.
09/438,989List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)Applicant
Yogesh S. Sanghvi et al.U.S. Department of Commerce
Patent and Trademark OfficeFiling Date
**November 12,
1999**Group
1623**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)**

BO	Oberhauser, B. et al., "Effective incorporation of 2'-O-methyl-oligonucleotides into liposomes and enhanced cell association through modification with thiocholesterol", <i>Nucl. Acids Res.</i> , 1992 , <i>20</i> , 533-538
BP	Regezi et al., "Vascular adhesion molecules in oral lichen planus", <i>Oral Surg. Oral Med. Oral Pathol.</i> , 1996 , <i>81</i> , 682-690
BQ	Ruoslahti, "How Cancer Spreads," <i>Sci. Am.</i> , 1996 , 72-77
BR	Saison-Behmoaras, T. et al., "Short modified antisense oligonucleotides directed against Ha-ras point mutation induce selective cleavage of the mRNA and inhibit T24 cells proliferation", <i>EMBO J.</i> , 1991 , <i>10</i> , 1111-1118
BS	Sanghvi et al., "Concept, Discovery and Development of MMI Linkage: Story of a Novel Linkage for Antisense Constructs", <i>Nucleosides & Nucleotides</i> , 1997 , <i>16</i> (7-9), 907-916
BT	Sanghvi, Y.S., "Heterocyclic Base Modifications in Nucleic acids and their Applications in Antisense Oligonucleotides", <i>Antisense Research and Applications</i> , Crooke et al. (Eds.), CRC Press, Boca Raton, 1993 , Chapter 15, 273-288
BU	Secrist, J.A. et al., "Synthesis and Biological Activity of 4'-Thionucleosides", <i>10th International Roundtable: Nucleosides, Nucleotides and their Biological Applications</i> , Sept. 16-20 1992, Abstract 21, Park City, Utah, 40
BV	Shea, R.G. et al., "Synthesis, hybridization properties and antiviral activity of lipid-oligodeoxynucleotide conjugates", <i>Nucl. Acids Res.</i> , 1990 , <i>18</i> , 3777-3783
BW	Shiohara et al., "Fixed drug Eruption: Expression of Epidermal Keratinocyte Intercellular Adhesion Molecule-1 (ICAM-1)", <i>Arch. Dermatol.</i> , 1989 , <i>125</i> , 1371-1376
BX	Stetler-Stevenson et al., "Tumor Cell Interactions with the Extracellular Matrix During Invasion and Metastasis," <i>Annu. Rev. Cell Biol.</i> , Palade, G.E. et al. (eds.), 1993 , <i>9</i> , 541-573

EXAMINER**DATE CONSIDERED***NOT AVAILABLE TO EXAMINER*



Form PTO-1449 Modified

List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)

U.S. Department of Commerce
Patent and Trademark Office

Docket No.
ISIS-4288

Serial No.
09/438,989

Applicant
Yogesh S. Sanghvi et al.

Filing Date
November 12,
1999

Group
1623

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	BY	Svinarchuk, F.P. et al., "Inhibition of HIV proliferation in MT-4 cells by antisense oligonucleotide conjugated to lipophilic groups", <i>Biochimie</i> , 1993, 79, 49-54
	BZ	Swayze et al., "The Synthesis of <i>N,N'</i> - <i>O</i> -Trisubstituted Hydroxylamines via a Mild Reductive Alkylation Procedure: An Improved Synthesis of the MMI Backbone", <i>Synlett</i> , 1997, 859-861
	CA	Swayze et al., "The Synthesis of the Sixteen Possible 2'- <i>O</i> -Methyl MMI Dimer Phosphoramidites: Building Blocks for the Synthesis of Novel Antisense Oligonucleotides", <i>Nucleosides & Nucleotides</i> , 1997, 16(7-9), 971-972
	CB	U.S. Congress, Office of Technology Assessment, "The State-of-the-art in Genetic Screening", <i>Genetic Monitoring and Screening in the Workplace</i> , OTA-BA-455, U.S. Government Printing Office, Washington, D.C., 1990, Ch. 5, 75-99
	CC	Wahlestedt, C. et al., "Antisense oligodeoxynucleotides to NMDA-R1 receptor channel protect cortical neurons from excitotoxicity and reduce focal ischaemic infarctions", <i>Nature</i> , 1993, 363, 260-263
	CD	Wahlestedt, C. et al., "Modulation of Anxiety and Neuropeptide Y-Y1 Receptors by Antisense Oligodeoxynucleotides", <i>Science</i> , 1993, 259, 528-531
*	CE	Ausubel, F.M. et al. (Eds.), <i>Current Protocols in Molecular Biology</i> , Current Publications, 1993
*	CF	Sambrook, J. et al. (Eds.), <i>Molecular Cloning, A Laboratory Manual</i> , Second Ed., Cold Spring Harbor Laboratory Press, 1989
*	CG	Green and Wuts, <i>Protective Groups in Organic Synthesis</i> , 2d edition, John Wiley & Sons, New York, 1991
EXAMINER <i>Hand Des</i>		DATE CONSIDERED <i>8-17-04</i>

*A copy of this reference was not be forwarded to the U.S. Patent and Trademark Office since it was believed to be too voluminous and easily obtainable by the Examiner.

NOT AVAILABLE TO EXAMINER



Form PTO-1449 Modified

List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)

U.S. Department of Commerce
Patent and Trademark Office

Docket No.
ISIS-4288

Serial No.
09/438,989

Applicant
Yogesh S. Sanghvi et al.

Filing Date
November 12,
1999

Group
1623

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

CH	Agrawal et al. (eds.), "Methods of Molecular Biology", in <i>Protocols for Oligonucleotide Conjugates</i> , Agrawal, S. (ed.), Humana Press, New Jersey, 1994, Vol. 26, 1-72
CI	Alul, R.H. et al., "Oxalyl-CPG: a labile support for synthesis of sensitive oligonucleotide derivatives", <i>Nucl. Acid Res.</i> , 1991, 19, 1527-1532
CJ	Bachelin et al., "Structure of a stereoregular phosphorothioate DNA/RNA duplex," <i>Nat. Struct. Biol.</i> , 1998, 5(4), 271-276
CK	Baker, B.F. et al., "2'-O-(2-Methoxy)ethyl-modified Anti-intercellular Adhesion Molecule 1 (ICAM-1) Oligonucleotides Selectively Increase the ICAM-1 Translation Initiation Complex in Human Umbilical Vein Endothelial Cells", <i>J. Biol. Chem.</i> , 1997, 272, 11994-12000
CL	Beaucage, S.L. et al., "Advances in the Synthesis of Oligonucleotides by the Phosphoramidite Approach", <i>Tetrahedron</i> , 1992, 48, 2223-2311
CM	Brown, T. et al., "A New Base-stable Linker for Solid-Phase Oligonucleotide Synthesis," <i>J. Chem. Soc. Chem. Comm.</i> , 1989, 891-893
CN	Burgers, P.M.J. et al., "A Study of the Mechanism of DNA Polymerase I from <i>Escherichia coli</i> with Diastereomeric Phosphorothioate Analogs of Deoxyadenosine Triphosphate", <i>J. Biol. Chem.</i> , 1979, 254, 6889-6893
CO	Crooke, S.T. et al., "Kinetic characteristics of <i>Escherichia coli</i> RNase H1: cleavage of various antisense oligonucleotide-RNA duplexes", <i>Biochem. J.</i> , 1995, 312, 599-608
CP	Damha, M.J. et al., "An improved procedure for derivatization of controlled-pore glass beads for solid-phase oligonucleotide synthesis", <i>Nucl. Acids Res.</i> , 1990, 18, 3813-3821
CQ	Delgado, C. et al., "The Uses and Properties of PEG-Linked Proteins", <i>Crit. Rev. in Therapeutic Drug Carrier Sys.</i> , 1992, 9, 249-304

EXAMINER

DATE CONSIDERED

8-18-04

NOT AVAILABLE TO EXAMINER



Form PTO-1449 Modified

List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)

U.S. Department of Commerce
Patent and Trademark Office

Docket No.
ISIS-4288

Serial No.
09/438,989

Applicant
Yogesh S. Sanghvi et al.

Filing Date
November 12,
1999

Group
1623

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

CR	Efimov, V.A. et al., "New efficient sulfurizing reagents for the preparation of oligodeoxyribonucleotide phosphorothioate analogues", <i>Nucl. Acids Res.</i> , 1995, 23, 4029-4033
CS	Eliel, E.L. et al., "Asymmetric Syntheses Based on 1,3-Oxathianes. I. Scope of the Reaction," <i>J. Am. Chem. Soc.</i> , 1984, 106(10), 2937-2942
CT	Eliel, E.L. et al., "Neighboring Group Participation by Oxygen in the Solvolysis of Acyclic γ -Alkoxy Substituted <i>p</i> -Toluenesulfonates," <i>J. Org. Chem.</i> , 1985, 50, 2707-2711
CU	Eliel, E.L. et al., "Neighboring Group Participation by Sulfur Involving Four-Membered-Ring Intermediates (RS-4)," <i>J. Am. Chem. Soc.</i> , 1985, 107(10), 2946-2952
CV	Eliel, E.L. et al., "Highly Stereoselective Syntheses Involving <i>N</i> -Alkyl-4,4,7 α -trimethyl- <i>trans</i> -octahydro-1,3-benzoxazine Intermediates," <i>J. Org. Chem.</i> , 1990, 55, 2114-2119
CW	Eliel, E.L. et al., "Asymmetric Synthesis of (R)-(+)-Ethylmethyl- <i>n</i> -Propylcarbinol in High Enantiomeric Purity. A 1,3-Oxathiane Derived from (+)-Pulegone as Chiral Adjuvant," <i>Tetra Lett.</i> , 1981, 22(30), 2855-2858
CX	Froehler, B.C., "Oligodeoxynucleotide Synthesis: H-Phosphonate Approach," in <i>Protocols for Oligonucleotides and Analogs: Synthesis and Properties</i> , Agrawal S. (ed.), Humana Press, 1993, Ch. 4, 63-80
CY	Gait, M. J. ed., "An Introduction to Modern Methods of DNA Synthesis," <i>Oligonucleotide Synthesis, A Practical Approach</i> , IRL Press, Oxford, 1985, IRL Press, Oxford, Ch. 1, 1-22
CZ	Griffiths, A.D. et al., "Stereospecificity of nucleases towards phosphorothioate-substituted RNA: stereochemistry of transcription by T7 RNA polymerase," <i>Nucl. Acids Res.</i> , 1987, 15(10), 4145-4162
DA	Hacia, J.G. et al., "Phosphorothioate Oligonucleotide-Directed Triple Helix Formation," <i>Biochem.</i> , 1994, 33, 5367-5369
DB	Hamm, M. L. et al., "Incorporation of 2'-Deoxy-2'-mercaptocytidine into Oligonucleotides via Phosphoramidite Chemistry," <i>J. Org. Chem.</i> , 1997, 62, 3415-3420
DC	He, X.-C. et al., "Highly Enantioselective Syntheses of α -Hydroxyacids Using <i>N</i> -Benzyl-4,4,7 α -Trimethyl- <i>Trans</i> -Octahydro-1,3-Benzoxazine as a Chiral Adjuvant," <i>Tetrahedron</i> , 1987, 43(21), 4979-4987

EXAMINER

DATE CONSIDERED

8-18-04

NOT AVAILABLE TO EXAMINER



Form PTO-1449 Modified

List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)

U.S. Department of Commerce
Patent and Trademark Office

Docket No.
ISIS-4288

Serial No.
09/438,989

Applicant
Yogesh S. Sanghvi et al.

Filing Date
November 12,
1999

Group
1623

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

DD	Gyer, R.P. et al., "3H-1,2-Benzodithiole-3-one 1,1-Dioxide as an Improved Sulfurizing Reagent in the Solid-Phase Synthesis of Oligodeoxyribonucleoside Phosphorothioates", <i>J. Am. Chem. Soc.</i> , 1990 , <i>112</i> , 1253-1254
DE	Jin, Y. et al., "Stereoselective Synthesis of Dithymidine Phosphorothioates Using Xylose Derivatives as Chiral Auxiliaries," <i>J. Org. Chem.</i> , 1998 , <i>63</i> , 3647-3654
DF	Jung, M.E., "New Gem- and Vic-Disubstituent Effects on Cyclizations," <i>Synlett</i> , 1999 , <i>SI</i> , 843-846
DG	Kamer, P.C.J. et al., "An Efficient Approach Toward the Synthesis of Phosphorothioate Diesters via the Schonberg Reaction", <i>Tetrahedron Letts.</i> , 1989 , <i>30</i> , 6757-6760
DH	Koziolkiewicz, M. et al., "Stability of Stereoregular Oligo(nucleoside Phosphorothioate)s in Human Plasma: Diastereoselectivity of Plasma 3'-Exonuclease," <i>Antisense Nucl. Acid Drug Dev.</i> , 1997 , <i>7</i> , 43-48
DI	Koziolkiewicz, M. et al., "Stereodifferentiation - the effect of P chirality of oligo(nucleoside phosphorothioates) on the activity of bacterial RNase H," <i>Nucl. Acids Res.</i> , 1995 , <i>23(24)</i> , 5000-5005
DJ	Koziolkiewicz, M. et al., "Enzymatic Assignment of Diastereomeric Purity of Stereodefined Phosphorothioate Oligonucleotides," <i>Antisense Nucl. Acid Drug Dev.</i> , 1999 , <i>9</i> , 171-181
DK	Koziolkiewicz, M. et al., "Stability of Stereoregular Oligo(nucleoside phosphorothioate)s in Human Cells; Diastereoselectivity of Cellular 3'-Exonuclease," <i>Nucleosides & Nucleotides</i> , 1997 , <i>16(7-9)</i> , 1677-1682
DL	Lackey, D.B. et al., "Biochemical synthesis of chirally pure Rp oligonucleotide phosphorothioates," <i>Biotechnol. Lett.</i> , 1997 , <i>19(5)</i> , 475-478
DM	Lima, W.F. et al., "Binding Affinity and Specificity of Escherichia coli Rnase H1: Impact on the Kinetics of Catalysis of Antisense Oligonucleotide-RNA Hybrids," <i>Biochemistry</i> , 1997 , <i>36</i> , 390-398

EXAMINER

DATE CONSIDERED

8-17-04

NOT AVAILABLE TO EXAMINER



Form PTO-1449 Modified

List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)

U.S. Department of Commerce
Patent and Trademark Office

Docket No.
ISIS-4288

Serial No.
09/438,989

Applicant
Yogesh S. Sanghvi et al.

Filing Date
November 12,
1999

Group
1623

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

DN	Kudwig, J. et al., "Rapid and Efficient Synthesis of Nucleoside 5'-O-(1-Thiotriphosphates), 5'-Triphosphates and 2',3'-Cyclophosphorothioates Using 2'Chloro-4H-1,3,2-benzodioxaphosphorin-4-one", <i>J. Org. Chem.</i> , 1989 , <i>54</i> , 631-635
DO	Lynch et al., "Asymmetric Syntheses Based on 1,3-Oxathianes. 2. Synthesis of Chiral Tertiary α -Hydroxy Aldehydes, α -Hydroxy Acids, Glycols (RR'C(OH)CH ₂ OH), and Carbinols (RR'C(OH)CH ₃) in High Enantiomeric Purity," <i>J. Am. Chem. Soc.</i> , 1984 , <i>106</i> , 2943-2948
DP	Minshall, J. et al., "The use of single-stranded DNA and RNase H to promote quantitative 'hybrid arrest of translation' of mRNA/DNA hybrids in reticulocyte lysate cell-free translations", <i>Nucl. Acids. Res.</i> , 1986 , <i>14</i> , 6433-6451
DQ	Ouchi, T. et al., "Synthesis and Antitumor Activity of Poly(Ethylene Glycol)s Linked to 5'-Fluorouracil via a Urethane or Urea Bond", <i>Drug Des. & Disc.</i> , 1992 , <i>9</i> , 93-105
DR	Polushin, N. N. et al., "Synthesis of Oligonucleotides Containing 2'-Azido-and 2'-Amino-2'-deoxyuridine Using Phosphotriester Chemistry," <i>Tetrahedron Letts.</i> , 1996 , <i>37</i> (19), 3227-3230
DS	Rao, M.V. et al., "Dibenzoyl Tetrasulphide-A Rapid Sulphur Transfer Agent in the Synthesis of Phosphorothioate Analogues of Oligonucleotides", <i>Tetrahedron Letts.</i> , 1992 , <i>33</i> , 4839-4842
DT	Ravasio, N. et al., "Selective Hydrogenations Promoted by Copper Catalysts. 1. Chemoselectivity, Regioselectivity, and Stereoselectivity in the Hydrogenation of 3-Substituted Steroids", <i>J. Org. Chem.</i> , 1991 , <i>56</i> , 4329-4333
DU	Sierchala, A. et al., "Oxathiaphospholane Method of Stereocontrolled Synthesis of Diribonucleoside 3',5'-Phosphorothioates," <i>J. Org. Chem.</i> , 1996 , <i>61</i> , 6713-6716
DV	Slim, G. et al., "Configurationaly defined phosphorothioate-containing oligoribonucleotides in the study of the mechanism of cleavage of hammerhead ribozymes," <i>Nucl. Acids Res.</i> , 1991 , <i>19</i> (6), 1183-1188
DW	Stec, W.J. et al., "Deoxyribonucleoside 3'-O-(2-Thio- and 2-Oxo-"sprio"-4,4-pentamethylene-1,3,2-oxathiaphospholane)s: Monomers for Stereocontrolled Synthesis of Oligo(deoxyribonucleoside phosphorothioate)s and Chimeric PS/PO Oligonucleotides," <i>J. Am. Chem. Soc.</i> , 1998 , <i>120</i> , 7156-7167

EXAMINER

Edward J. Jones

DATE CONSIDERED

*8-18-04**NOT AVAILABLE TO EXAMINER*



Form PTO-1449 Modified

Docket No.
ISIS-4288Serial No.
09/438,989List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)Applicant
Yogesh S. Sanghvi et al.U.S. Department of Commerce
Patent and Trademark OfficeFiling Date
November 12,
1999Group
1623

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

DX	Stec, W.J. et al., "Stereocontrolled Synthesis of Oligo(nucleoside phosphorothioate)s", <i>Angew. Chem. Int. Ed. Engl.</i> , 1994, 33, 709-722
DY	Stec, W.J. et al., "Bis (O,O-Diisopropoxy Phosphinothioyl) Disulfide - A Highly Efficient Sulfurizing Reagent for Cost-Effective Synthesis of Oligo(Nucleoside Phosphorothioate)s", <i>Tetrahedron Letts.</i> , 1993, 34, 5317-5320
DZ	Stec, W.J. et al., "Diastereomers of Nucleoside 3'-O-(2-THio-1,3,2-oxathia(seleno)phospholanes): Building Blocks for Stereocontrolled Synthesis of Oligo(nucleoside Phosphorothioate)s", <i>J. Am. Chem. Soc.</i> , 1995, 117(49), 12019-12029
EA	Tang, J. et al., "Enzymatic Synthesis of Stereoregular (all Rp) Oligonucleotide Phosphorothioate and its Properties," <i>Nucleosides & Nucleotides</i> , 1995, 14(3-5), 985-990
EB	Thomson, J. B. et al., "Synthesis and Properties of Diuridine Phosphate Analogues Containing Thio and Amino Modifications," <i>J. Org. Chem.</i> , 1996, 61, 6273-6281
EC	Vu, H. et al, "Internucleotide Phosphite Sulfurization with Tetraethylthiuram Disulfide. Phosphorothioate Oligonucleotide Synthesis via Phosphoramidite Chemistry", <i>Tetrahedron Letts.</i> , 1991, 32, 3005-3008
ED	Wang, J.C. et al., "A Stereoselective Synthesis of Dinucleotide Phosphorothioate Triesters through a Chiral Indol-oxazaphosphorine Intermediate," <i>Tetra. Lett.</i> , 1997, 38(5), 705-708
EE	Wang, J.C. et al., "A Stereoselective Synthesis of Dinucleotide Phosphorothioates, Using Chiral Indol-oxazaphosphorine Intermediates," <i>Tetra. Lett.</i> , 1997, 38(22), 3797-3800
EF	Wright, P. et al., "Large Scale Synthesis of Oligonucleotides via phosphoramidite Nucleosides and a High-loaded Polystyrene Support", <i>Tetrahedron Letts.</i> , 1993, 34, 3373-3376
EG	Xu, Q. et al., "Efficient introduction of phosphorothioates into RNA oligonucleotides by 3-ethoxy-1,2,4-dithiazoline-5-one (EDITH)", <i>Nucl. Acids Res.</i> , 1996, 24, 3643-3644
EH	Xu, Q. et al., "Use of 1,2,4-dithiazolidine (DtsNH) and 3-ethoxy-1,2,4-dithiazoline-5-one (EDITH) for synthesis of phosphorothioate-containing oligodeoxyribonucleotides", <i>Nucl. Acids Res.</i> , 1996, 24, 1602-1607

EXAMINER

DATE CONSIDERED 8-18-04

NOT AVAILABLE TO EXAMINER



Form PTO-1449 Modified

List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)

U.S. Department of Commerce
Patent and Trademark Office

Docket No.
ISIS-4288

Serial No.
09/438,989

Applicant
Yogesh S. Sanghvi et al.

Filing Date
November 12,
1999

Group
1623

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

Ho	EI	Arnott, S. et al., "Optimised Parameters for A-DNA and B-DNA", <i>Biochem. & Biophys. Res. Comm.</i> , 1972, 47, 1504-1510
Ho	EJ	Bryant, F.R., et al., "Phosphorothioate substrates for T4 RNA ligase," <i>Biochem.</i> , 1982, 21, 5877-5885
Ho	EK	Berkow et al. (eds.), <i>The Merck Manual of Diagnosis and Therapy</i> , 15th Edition, Rahway, N.J., 1987, 2286-2293
Ho	EL	Bhat, B. et al., "Synthesis of Novel Nucleic Acid Mimics via the Stereoselective Intermolecular Radical Coupling of 3'-Iodo Nucleosides and Formaldoximines", <i>J. Org. Chem.</i> , 1996, 61, 8186-8199
Ho	EM	Brennan et al., "NA ligase catalyzed synthesis of base analogue-containing oligodeoxyribonucleotides and a characterization of their thermal stabilities," <i>Nucl. Acids Res.</i> , 1985, 13, 8665-8684
Ho	EN	Brennan et al., "[2] Using T4 RNA ligase with DNA substrates," <i>Methods Enzymol.</i> , 1983, 100, 38-53
	EO	Connolly, in <i>Oligonucleotides and Analogs: A Practical Approach</i> , Eckstein, F. (ed.), IRL Press, 1991, 155-183
Ho	EP	Coull, J.M., et al., "Synthesis and characterization of a carbamate-linked oligonucleoside," <i>Tet. Lett.</i> , 1987, 28, 745-748
	EQ	Damha M.J., et al., "Antisense L/D-oligodeoxynucleotide chimeras: nuclease stability, base-pairing properties, and activity at directing ribonuclease H," <i>Biochemistry</i> , 1994, 33, 7877-7885
Ho	ER	Eckstein, F., "Nucleoside Phosphorothioates", <i>Ann. Rev. Biochem.</i> , 1985, 54, 367-402
	ES	Guo et al., "Solid-phase stereoselective synthesis of 2'-O-methyl-oligoribonucleoside phosphorothioates using nucleoside bicyclic oxazaphospholidines," <i>Bioorg. & Med. Chem. Lett.</i> , 1998, 8, 2539-2544
EXAMINER <i>Paul J. [Signature]</i>		DATE CONSIDERED <i>8-18-04</i>



Form PTO-1449 Modified

Docket No.
ISIS-4288Serial No.
09/438,989List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)Applicant
Yogesh S. Sanghvi et al.U.S. Department of Commerce
Patent and Trademark OfficeFiling Date
November 12,
1999Group
1623

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	ET	Hewitt, J.M. et al., "Structural Determination of Silicon-Containing Oligonucleotides by ^1H-^{29}Si Long-Range Heteronuclear Multiple Quantum Correlation NMR Spectroscopy", 1992, 11, 1661-1666
	EU	King, D.I. et al., "Novel combinatorial selection of phosphorothioate oligonucleotide aptamers," Biochem., 1998, 37, 16489-16493
	EV	Kool, E. (ed.), in Chemistry: DNA and Aspects of Molecular Biology, Pergamon Press, 1999, Vol. 7, 285-311
Ho	EW	McGall et al., "The efficiency of light-directed synthesis of DNA arrays on glass substrates," <i>J. Am. Chem. Soc.</i> , 1997, 119, 5081-5090
Ho	EX	Hewitt, J.M. et al., "Structural Determination of Silicon-Containing Oligonucleotides by ^1H - ^{29}Si Long-Range Heteronuclear Multiple Quantum Correlation NMR Spectroscopy", 1992, 11, 1661-1666
Ho	EY	Monia, B.P. et al., "Evaluation of 2'-Modified Oligonucleotides Containing 2'-Deoxy Gaps as Antisense Inhibitors of Gene Expression", <i>J. Biol. Chem.</i> , 1993, 268, 14514-14522
Ho	EZ	Mungall, W.S. et al., "Carbamate Analogues of Oligonucleotides", <i>J. Org. Chem.</i> , 1977, 42, 703-706
Ho	FA	Musichi, B., et al., "Synthesis of carbohydrate sulfonates and sulfonate esters," <i>J. Org. Chem.</i> , 1990, 55(14), 4231-4233
Ho	FB	Reynolds, R.C. et al., "Synthesis of Thymidine Dimers Containing Internucleoside Sulfonate and Sulfonamide Linkages", <i>J. Org. Chem.</i> , 1992, 57, 2983-2985
	FC	Sanghvi, Y.S., et al., "Chemical synthesis and purification of phosphorothioate antisense oligonucleotides," in <i>Manuals of Antisense Technology</i>, Hartmann, G. et al. (eds.), Kulver Press, 1999, 3, 3-23

EXAMINER

DATE CONSIDERED

8-8-04



Form PTO-1449 Modified

List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)

U.S. Department of Commerce
Patent and Trademark Office

Docket No.
ISIS-4288

Serial No.
09/438,989

Applicant
Yogesh S. Sanghvi et al.

Filing Date
November 12,
1999

Group
1623

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

<i>Do</i>	FD	Sood, A. et al., "Boron-Containing Nucleic Acids. 2. Synthesis of Oligodeoxynucleoside Boranophosphates", <i>J. Am. Chem. Soc.</i> , 1990, 112, 9000-9001
<i>Do</i>	FE	Stirchak, E.P. et al., "Uncharged Stereoregular Nucleic Acid Analogs. I. Synthesis of a Cytosine-Containing Oligomer with Carbamate Internucleoside Linkages", <i>J. Org. Chem.</i> , 1987, 52, 4202-4206
<i>Do</i>	FF	Stirchak, E.P. et al., "Uncharged stereoregular nucleic acid analogs: 2. Morpholino nucleoside oligomer with carbamate internucleoside linkages", <i>Nucl. Acids Res.</i> , 1989, 17, 6129-6134
<i>Do</i>	FG	Vasseur, J.J. et al., "Oligonucleosides: Synthesis of a Novel Methylhydroxylamine-linked Nucleoside Dimer and Its Incorporation into Antisense Sequences", <i>J. Am. Chem. Soc.</i> , 1992, 114, 4006-4007
	FH	Wang, H. et al., "Solid Phase Synthesis of Neutral Oligonucleotide Analogues", <i>Tetrahedron Letts.</i>, 1991, 32, 7385-7388
*	FI	Ausubel, F.M. et al. (Eds.), <i>Current Protocols in Molecular Biology</i>, Current Publications, 1989
*	FJ	Green and Wuts, <i>Protective Groups in Organic Synthesis</i>, John Wiley & Sons, New York, 1999
EXAMINER <i>Hand</i>		DATE CONSIDERED <i>8-18-04</i>

*A copy of this reference will not be forwarded to the U.S. Patent and Trademark Office since it is believed to be too voluminous and easily obtainable by the Examiner.

**Form PTO-1449 Modified**

List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)

U.S. Department of Commerce
Patent and Trademark Office

Docket No.
ISIS-4288

Serial No.
09/438,989

Applicant
Yogesh S. Sanghvi et al.

Filing Date
**November 12,
1999**

Group
2953

U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
<i>Ho</i>	FK	3,687,808	08/29/72	Merigan et al.	195	28
	FL	4,689,320	08/25/87	Kaji	514	44
	FM	4,806,463	02/21/89	Goodchild et al.	435	5
	FN	5,004,810	04/02/91	Draper	536	27
	FO	5,166,195	11/24/92	Ecker	514	44
	FP	5,194,428	03/16/93	Agrawal et al.	514	44
	FQ	5,212,295	05/18/93	Cook	536	26.7
	FR	5,242,906	09/07/93	Pagano et al.	514	44
	FS	5,248,670	09/28/93	Draper et al.	514	44
<i>Ho</i>	FT	5,442,049	08/15/95	Anderson et al.	536	24.5

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Country	Translation YES NO	
<i>Ho</i>	FU	WO 94/08003	04/14/94	PCT	X	
<i>Ho</i>	FV	WO 99/05160	02/04/99	PCT	X	
<i>Ho</i>	FW	WO 89/12060	12/14/89	PCT	X	
<i>Ho</i>	FX	WO 90/15065	12/13/90	PCT	X	
<i>Ho</i>	FY	WO 91/08213	06/13/91	PCT	X	
<i>Ho</i>	FZ	WO 91/10671	07/25/91	PCT	X	

EXAMINER*Howard Oliver***DATE CONSIDERED***8-18-04*



Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office	Docket No. ISIS-4288	Serial No. 09/438,989
	Applicant Yogesh S. Sanghvi et al.	
	Filing Date November 12, 1999	Group 2953

U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
<i>Ho</i>	GA	5,457,189	10/10/95	Crooke et al.	536	24.5
	GB	5,489,677	02/06/96	Sanghvi et al.	536	22.1
	GC	5,514,577	05/07/96	Draper et al.	435	238
	GD	5,514,788	05/07/96	Bennett et al.	536	23.1
	GE	5,523,389	06/04/96	Ecker et al.	536	23.1
	GF	5,580,767	12/03/96	Cowsert et al.	435	172.3
	GG	5,582,972	12/10/96	Lima et al.	435	6
	GH	5,582,986	12/10/96	Monia et al.	435	6
	GI	5,587,361	12/24/96	Cook et al.	514	44
<i>Ho</i>	GJ	5,591,600	01/07/97	Ecker	435	69.1

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Country	Translation YES NO	
<i>Ho</i>	GK	WO 91/15500	10/17/91	PCT	X	
<i>Ho</i>	GL	WO 91/18997	12/12/91	PCT	X	
<i>Ho</i>	GM	WO 92/02258	02/20/92	PCT	X	
<i>Ho</i>	GN	WO 92/03568	03/05/92	PCT	X	
<i>Ho</i>	GO	WO 92/05186	04/02/92	PCT	X	

EXAMINER <i>Harold Lee</i>	DATE CONSIDERED <i>8-18-09</i>
----------------------------	--------------------------------



Form PTO-1449 Modified

List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)

U.S. Department of Commerce
Patent and Trademark Office

Docket No.
ISIS-4288

Serial No.
09/438,989

Applicant
Yogesh S. Sanghvi et al.

Filing Date
November 12,
1999

Group
2953

U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
<i>Ho</i>	GP	5,591,623	01/07/97	Bennett et al.	435	240.2
	GQ	5,591,720	01/07/97	Anderson et al.	514	44
	GR	5,599,797	02/04/97	Cook et al.	514	44
	GS	5,607,923	03/04/97	Cook et al.	514	44
	GT	5,620,963	04/15/97	Cook et al.	514	44
	GU	5,658,891	08/19/97	Draper et al.	514	44
	GV	5,661,134	08/26/97	Cook et al.	514	44
	GW	5,681,747	10/28/97	Boggs et al.	435	375
	GX	5,681,944	10/28/97	Crooke et al.	536	24.5
<i>Ho</i>	GY	5,691,461	11/25/97	Ecker et al.	536	24.32

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Country	Translation	
					YES	NO
<i>Ho</i>	GZ	WO 92/19637	11/12/92	PCT	X	
<i>Ho</i>	HA	WO 92/20822	11/26/92	PCT	X	
<i>Ho</i>	HB	WO 92/20823	11/26/92	PCT	X	
<i>Ho</i>	HC	WO 93/07883	04/29/93	PCT	X	
<i>Ho</i>	HD	0 216 860 B1	10/28/92	EPO	X	

EXAMINER

Amal Desai

DATE CONSIDERED

8-18-04

**Form PTO-1449 Modified**

List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)

U.S. Department of Commerce
Patent and Trademark Office

Docket No.
ISIS-4288

Serial No.
09/438,989

Applicant
Yogesh S. Sanghvi et al.

Filing Date
**November 12,
1999**

Group
2953

U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
<i>AB</i>	HE	4,415,732	11/15/83	Caruthers et al.	536	27
	HF	4,458,066	07/03/84	Caruthers et al.	536	27
	HG	4,469,863	09/04/84	Ts'o et al.	536	27
	HH	4,476,301	10/09/84	Imbach et al.	536	27
	HI	4,500,707	02/19/85	Caruthers et al.	536	27
	HJ	4,668,777	05/26/89	Caruthers et al.	536	27
	HK	4,725,677	02/16/88	Köster et al.	536	27
	HL	4,816,571	03/28/89	Andrus et al.	536	27
	HM	4,973,679	11/27/90	Caruthers et al.	536	27
	HN	5,023,243	06/11/91	Tullis	514	44
	HO	5,034,506	07/23/91	Summerton et al.	528	391
<i>AB</i>	HP	5,132,418	07/21/92	Caruthers et al.	536	27

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Country	Translation	
					YES	NO

EXAMINER*David C. Jones***DATE CONSIDERED** 8-18-04

**Form PTO-1449 Modified**

List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)

U.S. Department of Commerce
Patent and Trademark Office

Docket No.
ISIS-4288

Serial No.
09/438,989

Applicant
Yogesh S. Sanghvi et al.

Filing Date
**November 12,
1999**

Group
2953

U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
<i>HO</i>	HQ	Re. 34,069	09/15/92	Köster et al.	536	27
	HR	5,166,315	11/24/92	Summerton et al.	528	406
	HS	5,177,196	01/05/93	Meyer, Jr. et al.	536	22.1
	HT	5,185,444	02/09/93	Summerton et al.	544	81
	HU	5,188,897	2/23/93	Suhadolnik et al.	428	402.2
	HV	5,214,134	05/25/93	Weis et al.	536	25.3
	HW	5,216,141	06/01/93	Benner	536	27.13
	HX	5,235,033	08/10/93	Summerton et al.	528	391
	HY	5,264,423	11/23/93	Cohen et al.	514	44
	HZ	5,264,562	11/23/93	Matteucci	536	23.1
	IA	5,264,564	11/23/93	Matteucci	536	23.1
<i>HO</i>	IB	5,276,019	01/04/94	Cohen et al.	514	44

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Country	Translation YES NO	

EXAMINER*Howard Chen***DATE CONSIDERED***8-18-04*

**Form PTO-1449 Modified**

List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)

U.S. Department of Commerce
Patent and Trademark Office

Docket No.
ISIS-4288

Serial No.
09/438,989

Applicant
Yogesh S. Sanghvi et al.

Filing Date
**November 12,
1999**

Group
2953

U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
<i>HO</i>	IC	5,278,302	01/11/94	Caruthers et al.	536	24.5
	ID	5,286,717	02/15/94	Cohen et al.	514	44
	IE	5,321,131	06/14/94	Agrawal et al.	536	25.34
	IF	5,399,676	03/21/95	Froehler	536	23.1
	IG	5,405,938	04/11/95	Summerton et al.	528	406
	IH	5,405,939	04/11/95	Suhadolnik et al.	530	322
	II	5,434,257	08/18/95	Matteucci et al.	536	24.3
	IJ	5,453,496	09/26/95	Caruthers et al.	536	24.5
	IK	5,455,233	10/03/95	Spielvogel et al.	514	44
	IL	5,466,677	11/14/95	Baxter et al.	514	44
	IM	5,470,967	11/28/95	Huie et al.	536	24.3
<i>HO</i>	IN	5,476,925	12/19/95	Letsinger et al.	536	23.1

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Country	Translation	
					YES	NO

EXAMINER*Handwritten signature***DATE CONSIDERED***8-18-04*

**Form PTO-1449 Modified**

List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)

U.S. Department of Commerce
Patent and Trademark Office

Docket No.
ISIS-4288

Serial No.
09/438,989

Applicant
Yogesh S. Sanghvi et al.

Filing Date
**November 12,
1999**

Group
2953

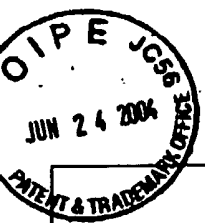
U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
<i>Ho</i>	IO	5,519,126	05/21/96	Hecht	536	24.3
	IP	5,536,821	07/16/96	Agrawal et al.	536	22.1
	IQ	5,541,306	07/30/96	Agrawal et al.	536	22.1
	IR	5,541,307	07/30/96	Cook et al.	536	23.1
	IS	5,550,111	08/27/96	Suhadolnik et al.	514	44
	IT	5,561,225	10/01/96	Maddry et al.	536	23.1
	IU	5,563,253	10/08/96	Agrawal et al.	536	22.1
	IV	5,571,799	11/05/96	Tkachuk et al.	514	47
	IW	5,596,086	01/21/97	Matteucci et al.	536	22.1
	IX	5,602,240	02/11/97	De Mesmaeker et al.	536	23.1
	IY	5,608,046	03/04/97	Cook et al.	536	23.1
<i>Ho</i>	IZ	5,610,289	03/11/97	Cook et al.	536	25.34

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Country	Translation	
					YES	NO

EXAMINER *Howard Chen***DATE CONSIDERED** *8-18-04*

**Form PTO-1449 Modified**

List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)

U.S. Department of Commerce
Patent and Trademark Office

Docket No.
ISIS-4288

Serial No.
09/438,989

Applicant
Yogesh S. Sanghvi et al.

Filing Date
**November 12,
1999**

Group
2953

U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
<i>JS</i>	JA	5,618,704	04/08/97	Sanghvi et al.	435	91.5
	JB	5,623,070	04/22/97	Cook et al.	536	27.6
	JC	5,625,050	04/29/97	Beaton et al.	536	24.1
	JD	5,633,360	05/27/97	Bischofberger et al.	536	22.1
	JE	5,663,312	09/02/97	Chaturvedula	536	22.1
	JF	5,670,633	09/23/97	Cook et al.	536	23.1
	JG	5,677,437	10/14/97	Teng et al.	536	23.1
	JH	5,677,439	10/14/97	Weis et al.	536	23.1
	JI	4,845,205	07/04/89	Huynh Dinh et al.	536	28
	JJ	4,981,957	01/01/91	Lebleu et al.	536	27
	JK	5,118,800	06/02/92	Smith et al.	536	23
<i>JS</i>	JL	5,124,047	06/23/92	Quach, et al.	210	699

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Country	Translation	
					YES	NO

EXAMINER*Hand Over***DATE CONSIDERED***8-18-00*

**Form PTO-1449 Modified**

List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)

U.S. Department of Commerce
Patent and Trademark Office

Docket No.
ISIS-4288

Serial No.
09/438,989

Applicant
Yogesh S. Sanghvi et al.

Filing Date
**November 12,
1999**

Group
2953

U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
<i>AO</i>	JM	5,130,302	07/14/92	Spielvogel et al.	514	45
	JN	5,134,066	07/28/92	Rogers et al.	435	91
	JO	5,138,045	08/11/92	Cook et al.	536	27
	JP	5,175,273	12/29/92	Bischofberger et al.	536	27
	JQ	5,218,105	06/08/93	Cook et al.	536	25.31
	JR	5,223,618	06/29/93	Cook et al.	544	276
	JS	5,264,562	11/23/93	Matteucci		
	JT	5,319,080	06/07/94	Leumann	536	27.1
	JU	5,359,044	10/25/94	Cook et al.	536	23.1
	JV	5,367,066	11/22/94	Urdea et al.	536	24.3
	JW	5,378,825	01/03/95	Cook et al.	536	25.34
	JX	5,386,023	01/31/95	Sanghvi et al.	536	25.3
	JY	5,393,878	02/28/95	Leumann	536	28.2
	JZ	5,432,272	07/11/95	Benner	536	25.3
	KA	5,446,137	08/29/95	Maag et al.	536	23.1
	KB	5,457,187	10/10/95	Gmeiner et al.	536	25.5
	KC	5,457,191	10/10/95	Cook et al.	536	27.13
	KD	5,459,255	10/17/95	Cook et al.	536	27.13
	KE	5,466,786	11/14/95	Buhr et al.	536	26.26
	KF	5,484,908	01/16/96	Froehler et al.	536	24.31
<i>AO</i>	KG	5,502,177	03/26/96	Matteucci et al.	536	2606

EXAMINER*Sarah Chen***DATE CONSIDERED***8-15-04*



Form PTO-1449 Modified

List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)

U.S. Department of Commerce
Patent and Trademark Office

Docket No.
ISIS-4288

Serial No.
09/438,989

Applicant
Yogesh S. Sanghvi et al.

Filing Date
November 12,
1999

Group
2953

U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
<i>Ho</i>	KH	5,506,351	04/09/96	McGee	536	55.3
	KI	5,514,785	05/07/96	Van Ness et al.	536	22.1
	KJ	5,519,134	05/21/96	Acevedo et al.	544	243
	KK	5,525,711	06/11/96	Hawkins et al.	536	22.1
	KL	5,543,507	08/06/96	Cook et al.	536	23.1
	KM	5,552,540	09/03/96	Haralambidis	536	25.34
	KN	5,567,811	10/22/96	Misiura et al.	536	25.34
	KO	5,571,902	11/05/96	Ravikumar et al.	536	22.1
	KP	5,576,427	11/19/96	Cook et al.	536	23.1
	KQ	5,578,718	11/26/96	Cook et al.	536	27.21
	KR	5,587,469	12/24/96	Cook et al.	536	23.1
	KS	5,591,722	01/07/97	Montgomery et al.	514	45
	KT	5,594,121	01/14/97	Froehler et al.	536	23.5
	KU	5,596,086	01/21/97	Matteucci, et al.	536	22.1
	KV	5,596,091	01/21/97	Switzer	536	24.5
	KW	5,597,909	01/28/97	Urdea et al.	536	24.3
	KX	5,602,000	02/11/97	Hyman	435	91.1
	KY	5,610,300	03/11/97	Altmann et al.	544	244
	KZ	5,614,617	03/25/97	Cook et al.	536	23.1
	LA	5,623,065	04/22/97	Cook et al.	536	23.1
<i>Ho</i>	LB	5,627,053	05/06/97	Usman et al.	435	91.1
EXAMINER <i>Howard</i>				DATE CONSIDERED <i>8-18-01</i>		

**Form PTO-1449 Modified**

List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)

U.S. Department of Commerce
Patent and Trademark Office

Docket No.
ISIS-4288

Serial No.
09/438,989

Applicant
Yogesh S. Sanghvi et al.

Filing Date
**November 12,
1999**

Group
2953

U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
<i>Ho</i>	LC	5,639,873	06/17/97	Barascut et al.	536	25.3
<i>Ho</i>	LD	5,646,265	07/08/97	McGee	536	25.34
<i>Ho</i>	LE	5,658,873	08/19/97	Bertsch-Frank et al.	510	375
<i>Ho</i>	LF	5,681,941	10/28/97	Cook et al.	536	23.1
<i>Ho</i>	LG	5,700,920	12/23/97	Altmann et al.	536	221
<i>Ho</i>	LH	5,817,781	10/06/98	Swaminathan et al.	536	22.1
<i>Ho</i>	LI	5,859,221	01/12/99	Cook et al.	536	23.1
** <i>Ho</i>	LJ	07/806,710	12/12/91	Jones, et al.		
** <i>A</i>	LK	07/990,848	12/11/92	Jones, et al.		
** <i>Ho</i>	LL	08/398,901	03/06/95	Cook et al.		
** <i>Ho</i>	LM	08/762,488	12/10/96	Cook, et al.		
** <i>Ho</i>	LN	08/837,201	03/14/97	Dean et al.		
** <i>Ho</i>	LO	08/910,629	08/13/97	McKay et al.		
** <i>Ho</i>	LP	09/009,490	01/20/98	Bennett et al.		
** <i>Ho</i>	LQ	09/016,520	01/30/98	Cook et al.		
** <i>Ho</i>	LR	09/044,506	03/19/98	Bennett et al.		
** <i>Ho</i>	LS	09/062,416	04/17/98	Bennett et al.		
EXAMINER <i>David Chen</i>				DATE CONSIDERED <i>8-19-04</i>		

**Pursuant to 37 C.F.R. 1.98(a)(2)(iii) no copy of a U.S. patent application need be included with an Information Disclosure Statement filed under 37 C.F.R. 1.97.



Form PTO-1449 Modified

List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)

U.S. Department of Commerce
Patent and Trademark Office

Docket No.
ISIS-4288

Serial No.
09/438,989

Applicant
Yogesh S. Sanghvi et al.

Filing Date
November 12,
1999

Group
2953

U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
** <i>Ho</i>	LT	09/115,043	07/14/98	Manoharan et al.		
** <i>Ho</i>	LU	09/123,108	07/27/98	Manoharan et al.		
** <i>Ho</i>	LV	09/130,973	08/07/98	Manoharan et al.		
** <i>Ho</i>	LW	09/344,260	06/25/99	Manoharan		
** <i>Ho</i>	LX	09/370,541	08/09/99	Manoharan, et al.		
** <i>Ho</i>	LY	09/349,040	07/07/99	Manoharan et al.		
** <i>Ho</i>	LZ	09/378,568	08/19/99	Manoharan et al.		

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Country	Translation YES NO	

EXAMINER

[Signature]

DATE CONSIDERED 8-18-04

**Pursuant to 37 C.F.R. 1.98(a)(2)(iii) no copy of a U.S. patent application need be included with an Information Disclosure Statement filed under 37 C.F.R. 1.97.